































































































































rd: Xcel Energy Coal-fired Power Plants in Region 8

State	Plant Name	Unit ID	Capacity (MWs)	% of System MWs	Cum. % of System MWs	Boiler Type	2001 Heat Input (mmBtu)	Primary SO2 Controls	2010 SO2 Allowance (tons/yr)	2001 SO2 Emissions (tons)	2001 Annual Avg SO2 Rate (lbs/mmBtu)	Est. SO2 Control Efficiency (%)	Est. SO2 Reduction (tons/yr) w/New Controls
Colorado													
Colorado	Cherokee	4	352	12%	30%	T	23,056,200	LSD '02	7,132	7,334	0.64	70%	5,134
Colorado													
Colorado													
Colorado	Hayden	H2	262	9%	63%	T	22,257,367	DL	8,810	1,490	0.13	83%	NA
Colorado	Valmont	5	199	7%	70%	T	13,887,790	DS '03	2,983	5,049	0.73	70%	3,534
Colorado	Hayden	H1	184	7%	77%	DB	19,025,081	DL	5,776	1,220	0.13	83%	NA
Colorado	Cherokee	3	152	5%	82%	DB	11,622,986	LSD '02	3,562	4,534	0.78	70%	3,174
Colorado	Arapahoe	4	111	4%	86%	DVF	7,165,699	DSI	1,829	1,679	0.47	70%	NA
Colorado	Cherokee	1	107	4%	90%	DVF	7,810,265	DSI '02	2,035	2,478	0.63	70%	1,735
Colorado													
Colorado	Cameco	2	52	2%	95%	DB	4,433,623	None	852	2,069	0.93	0%	0
Colorado	Arapahoe #	1	45	2%	97%	DVF	3,816,088	Retire '03	208	1,071	0.56	-	-
Colorado	Arapahoe #	2	45	2%	98%	DVF	2,557,790	Retire '03	229	718	0.56	-	-
Colorado	Arapahoe	3	45	2%	100%	DVF	4,196,091	DSI '03	172	1,183	0.56	70%	828
Totals			2,825	100%			230,779,117		63,884	65,413	0.57		

# Units to be retired in 2003

Boiler Type:

T - tangential-fired

DB - dry bottom wall-fired

DVF - dry bottom vertically-fired

SO2 Control Type:

LSD - lime spary dryer

DL - dry lime

DS - dry sorbent

DSI - dry sorbent injection

NOx Control Type:

LNBO - low NOx burner w/o

LNB - low NOx burner

OFA - overfire air

Primary NOx Controls	2001 Nox Emissions (tons)	2001 Annual Avg NOx Rate (lbs/mmBtu)	Est. NOx Control Efficiency (%)	Est. NOx Reduction (tons/yr) w/SCR
LNB	3,520	0.31	30%	NA
LNBO	4,047	0.36	30%	NA
LNB	1,987	0.29	30%	NA
LNBO	4,135	0.43	30%	NA
LNBO	1,928	0.33	30%	NA
LNBO	924	0.26	30%	NA
LNBO	1,248	0.31	30%	NA
LNBO	848	0.38	30%	NA
None	1,484	0.76	-	-
None	995	0.76	-	-
None	1,642	0.77	0%	0
	38,952	0.34		

NA - control

verfire air







































































UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2466

DEC 28 2000

8ENF-T

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Michael J. Price, Plant Manager  
Public Service Company of Colorado Pawnee Power Plant  
14940 Morgan County Rd. 24 PO Box 857  
Brush, CO 80723

RE: Request for Information Pursuant to  
Section 114(a) of the Clean Air Act  
Regarding EPA's Coal-fired Power Plant  
Investigations

Dear Mr. Price:

The United States Environmental Protection Agency (EPA) hereby requires Public Service Company of Colorado to provide certain information as part of an EPA investigation to determine the Clean Air Act (CAA or the Act) compliance status of your owned and/or operated Pawnee Station, located in Brush, Colorado.

Pursuant to Section 114(a) of the CAA, 42 U.S.C. § 7414(a), the Administrator of EPA is authorized to require any person who owns and/or operates an emission source to establish and maintain records, make reports and provide such other information as he may reasonably require for the purposes of determining whether such person is in violation of any provision of the Act. In order for EPA to determine whether a violation has occurred, you are hereby required, pursuant to Section 114(a) of the CAA, to provide responses to the following questions and requests for information regarding the above identified electric generating station.

EPA has reasons to believe that physical changes or changes in the method of operation may have been made at this power plant. These reasons are, in part, reflected in the enclosed graphs (see Enclosure 3) reflecting operations and expenditures at this plant since 1981. These changes may have resulted in or could in the future result in increased emissions from this plant. Therefore, you are hereby required to respond to the following questions and requests for information within the time periods specified (see Enclosure 1 for instructions and definitions).



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1. Provide a list of all owners and operators of the above referenced station, including the percentage ownership for each owner.
2. For each Coal Fired Boiler Unit (as defined in Attachment 1) at the generating station identified above, provide a list of all capital projects of greater than \$100,000 for which physical construction commenced after January 1, 1980, to the present which provides the work order number, project description, authorized expenditure, actual expenditure, date of approval, and project completion date.
3. Provide copies of all Capital Appropriation Requests (as defined in Attachment 1) for capital projects which involved the equipment identified in (a.) - (m.) below for all projects with actual or authorized total expenditures greater than \$500,000 at the generating station identified above for the period of January 1, 1980, to the present:
  - a. Boiler casing and boiler floor/wall tube replacements for each unit,
  - b. Economizer, reheater(s), primary and secondary superheaters, steam drums, and/or primary and secondary air pre-heater replacements for each unit,
  - c. Induced draft (ID) fans, forced draft (FD) fans and fan motor replacements for each unit,
  - d. Condenser and/or feed water heater replacements for each unit,
  - e. Flue gas recirculation (FGR) replacements or deactivations for each unit,
  - f. Pulverizer, exhauster, burner and/or cyclone replacements for each unit,
  - g. Balanced draft conversion projects,
  - h. Turbine rotor/turbine shell replacements or design changes,
  - i. Low-NOx burner (LNB) installation and modifications/ retrofits including any model or size changes made to the burners for each unit, and including changes to the ignitors [i.e., include model, size (in MMBTUs/hour), etc.],
  - j. Scrubber retrofits and/or design change projects,
  - k. Any Electrostatic Precipitator (ESP) retrofits or design changes,
  - l. Coal handling system changes to increase feed rate or other changes to coal preparation,
  - m. Changes made to equipment to accommodate the burning of used oil in each boiler.



The Capital Appropriation Requests are to include, but not be limited to,

- 1) copies of all Capital Appropriation Requests with authorizing signatures,
- 2) equipment specifications,
- 3) project justifications,
- 4) cost/benefit analyses,
- 5) all alternative options analyses,
- 6) all proposals and price quotations submitted by equipment suppliers or contractors,
- 7) all purchase orders and/or contracts entered into that exceeded \$500,000,
- 8) copies of all correspondence from/to a contractor regarding the material being supplied to support the project that discussed changes in material type or design from the existing component(s) being replaced,
- 9) any engineering or performance test, or related documents, and
- 10) post-completion project and/or equipment guarantee evaluation that was conducted.

Additionally,

- 1) identify the dates when the work orders were completed and the equipment was returned to service,
  - 2) provide all work order project completion reports, and
  - 3) provide copies of any emissions calculations performed before and after the capital project.
4. Provide copies of the original and all subsequent boiler cross-sectional diagrams for each boiler at the station identified above.
  5. Provide original (nameplate) and all subsequent boiler design ratings for each boiler at the station identified above as follows:
    - a. Steam flow rate
      - (1) Peak
      - (2) Sustained,
    - b. Maximum heat input capacity (based on the coal heat content),



- c. Gross megawatt (MW) capacity,
  - d. Net MW capacity.
6. From January 1980 to the present, provide the following for each Coal Fired Boiler Unit at the station identified above for each calendar year:
- a. Capacity factor on a monthly and annual basis,
  - b. Availability factor on a monthly and annual basis,
  - c. Operating hours on a monthly and annual basis,
  - d. Coal consumption on a monthly and annual basis,
  - e. Fuel Quality (e.g., % sulfur, % ash, heat content, etc.) on a monthly and annual basis,
  - f. Total gross and net generation (MWHR) on a monthly and annual basis,
  - g. Heat rate (BTU/KWHR) on a monthly and annual basis,
  - h. Identify the top ten annual causes of forced outages by MWHR of lost generation,
  - i. Annual planned outage rate by MWHR of lost generation,
  - j. Lost generation (in MWHR) due to forced, maintenance or scheduled outages and curtailments, caused by:
    - (1) Boiler related components,
    - (2) Turbine generator components,
    - (3) Pollution control performance,
    - (4) Balance of Station,
    - (5) Miscellaneous,
  - k. Scheduled/planned boiler unit retirement dates,
  - l. All historical capability test results of each unit (MW),
  - m. Monthly peak hourly average generation (MW),
  - n. Summary results of any or all stack tests for the following pollutants,
    - (1) NO<sub>x</sub>,
    - (2) SO<sub>2</sub>,
    - (3) PM and PM<sub>10</sub>,
    - (4) Air Toxics (Pb/Hg/HCl/Other).



7. Monthly and annual emissions (lb/mmBTU and tons/year) of the following air pollutants. Emissions information responsive to this request includes annual emissions reports submitted to the applicable state regulatory agency, and all data obtained from any continuous emission monitor (CEM) installed in the flue gas stream. [Specify the timeframes and pollutants, where emissions data has already been reported to the U.S. EPA, (i.e., Acid Rain CEM data/reports, New Source Performance Standards (NSPS) data/reports, etc.). Acid Rain CEM data that has been submitted to the EPA to comply with Title IV requirements and air emissions reports submitted to EPA to comply with applicable NSPS requirements does not have to be resubmitted to satisfy this Section 114 information request letter]:
  - (1) NO<sub>x</sub>,
  - (2) SO<sub>2</sub>,
  - (3) PM and PM<sub>10</sub>,
  - (4) Air Toxics (Pb/Hg/HC1/Other).
8. For each Coal Fired Boiler Unit at the station identified above, provide copies of all Prevention of Significant Deterioration/New Source Review (PSD/NSR) permit applications submitted to the state regulatory agency with a description of the modifications, and all subsequent correspondence with the state regulatory agency regarding the permit application. Also, provide copies of all PSD/NSR permits that were issued for each Coal Fired Boiler Unit at the station identified above.
9. Provide copies of all correspondence, memoranda, telephone discussion summaries, etc., with either the federal or state regulatory agency regarding PSD/NSR/NSPS applicability determinations for any modifications and/or reconstructions between 1978 and the present for each Coal Fired Boiler Unit at the station identified above.
10. List and provide all life extension/life optimization studies, evaluations, assessments and reports, including any reports and/or correspondence, etc., related to extending the life for each boiler or boiler component at the station identified above.
11. Provide the initial installed cost of each Steam Generating Unit (as defined in Attachment 1) at the station identified above.
12. Identify the total capital expenditures on an annual basis made to each Steam Generating Unit over the life of each unit at the station identified above.



13. Identify the start and completion dates of all scheduled and maintenance outages that occurred for each Coal Fired Boiler Unit at the station identified above for the period January 1, 1980, to the present and provide copies of all outage reports for each Coal Fired Boiler Unit at the station identified above.
14. For each Coal Fired Boiler Unit at the station identified above, provide all Generating Availability Data System (GADS) reports from January 1, 1980 to the present, listing the following for each unit:
  - a. Forced outages and curtailments (causes and MWHR lost),
  - b. Scheduled or planned outages and curtailments (causes and MWHR lost),
  - c. Duration (hours) of each and all outages and curtailments.
15. Provide the current "projected capital outlay plan" or other appropriate document(s) that sets forth the operational and equipment changes and identifies the projected capital expenditures that Public Service Company of Colorado will be making in the next five years to the generating station identified above.

You must submit the response to item numbers 1, 2, and 3 within thirty (30) calendar days after your receipt of this letter. The remainder of the information requested shall be submitted within forty-five (45) calendar days after receipt of the letter. This information should be submitted to :

U.S. Environmental Protection Agency, Region VIII  
999 18th Street, Suite 300  
Denver, CO 80202-2466  
Attention: Albion Carlson (ENF-T)

If you anticipate being unable to respond fully to this request within the time period specified, you must submit a sworn declaration by a responsible corporate official within 20 calendar days after your receipt of this letter, specifying what information will be provided within the time specified, describing what efforts have been/are being made to obtain other responsive information and providing a detailed schedule of when such other responsive information can be provided. Upon receipt and based upon such declaration, EPA may extend the time in which responsive information must be provided.

Your response to this requested information must be certified by a duly authorized officer or agent of Public Service Company of Colorado by signing the enclosed Statement of Certification (see Enclosure 2) and returning it with your response. All information submitted in response to this request must be certified as true, correct, accurate, and complete by an individual with sufficient knowledge and authority to make such representations on behalf of Public Service Company of Colorado.



A knowing submittal of false information in response to this request may be actionable under Section 113(c)(2) of the CAA, as well as 18 U.S.C. §§ 1001 and 1341. Public Service Company of Colorado should also be aware that a failure to comply fully with the terms of this request may subject it to an enforcement action under Section 113 of the CAA, 42 U.S.C. § 7413.

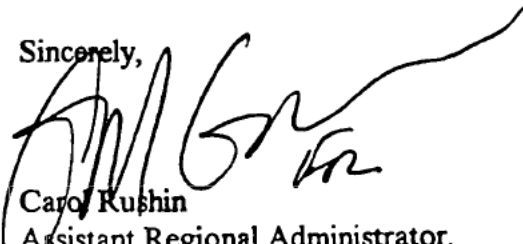
This letter in no way affects the obligations of Public Service Company of Colorado to comply with other local, State and Federal laws and regulations. In addition, nothing in this letter shall be construed to be a waiver by EPA of any rights or remedies under the Clean Air Act.

Public Service Company of Colorado may assert a claim of business confidentiality regarding any portion of the information submitted in response to this request (except for emission data). (See 40 CFR 2.201 *et seq.*) Failure to assert such a claim will render all submitted information available to the public without further notice. If you believe the disclosure of specific information would reveal a trade secret, clearly identify such information.

The requirements of this letter are not subject to the Paperwork Reduction Act of 1980, 44 U.S.C. §3501 *et seq.*

If you have any questions, please contact Albion Carlson of my staff concerning this matter at 303-312-7076.

Sincerely,



Carol Rushin  
Assistant Regional Administrator,  
Office of Enforcement, Compliance, &  
Environmental Justice

Enclosures: 1) Instructions and Definitions  
2) Statement of Certification  
3) Data Charts for Big Stone Power Plant

cc: Margie Perkins, Director  
Air Pollution Control Division  
Colorado Department of Public Health and Environment

William Woodard  
Public Service Company of Colorado Pawnee Station



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**ENCLOSURE 1**





## **INSTRUCTIONS**

- 1) Provide a separate narrative response to each question and subpart of a question set forth in the Information Request.
- 2) Precede each answer with the number of the question to which it corresponds and at the end of each answer identify the person(s) that provided information that was used or considered in responding to that question, as well as each person that was consulted in the preparation of that response.
- 3) Indicate on each document produced in response to this Information Request, or in some other reasonable manner, the number of the question to which it corresponds.
- 4) When a response is provided in the form of a number, specify the units of measure of the number in a precise manner.
- 5) Where documents or information necessary for a response are neither in your possession nor available to you, indicate in your response why such documents or information is not available or in your possession and identify any source that either possesses or is likely to possess such information.

## **DEFINITIONS**

All terms used in this Request for Information will have their ordinary meaning unless such terms are defined in the Act, 42 U.S.C. § 7401, C.F.R. Part 52 (which incorporates the federally-approved Stated Implementation Plan), or other Clean Air Act implementing regulations. Reference is made to the EPA regulatory provisions only; however, you should apply the applicable federally-approved state provisions when appropriate. Definitional clarification is specified below.

- 1) The terms "document" and "documents" shall mean any object that records, stores, or presents information, and includes writings, memoranda, records, or information of any kind, formal or informal, whether wholly or partially handwritten or typed, whether in computer format, memory, or storage device, or in hardcopy, including any form or format of these. If in computer format or memory, each such document shall be provided in translation to a form useable and readable by EPA, with all necessary documentation and support. All documents in hard copy should also include attachments to or enclosures with any document.



- 2) The term "Capital Appropriation Requests" shall mean the documents used by station personnel that serve the purpose of describing capital projects for equipment and process changes when seeking management approval for a planned expenditure at the station. These documents are also known as capital improvement requests, authorizations for expenditure, work order records, or other similar names.
- 3) The term "Steam Generating Unit" shall have the same meaning as defined at 40 C.F.R. 60.41(b)
- 4) The term "Coal-Fired Boiler Unit" shall mean all equipment used for the purpose of generating electricity including but not limited to coal handling facilities, boilers, ductwork, stacks, turbines, generators, and all ancillary equipment.
- 5) The term "PSD/NSR" shall mean the Prevention of Significant Deterioration and the New Source Review preconstruction permitting programs established at 40 C.F.R. 51 and 52 and any respective program established under a state implementation plan.
- 6) The term "NSPS" shall mean the Standards of Performance for New Stationary Sources promulgated at 40 C.F.R. Part 60.
- 7) The term "MWHR" shall mean megawatt hours of electrical energy.
- 8) The term "KWHR" shall mean kilowatt hours of electrical energy.
- 9) The term "BTU" shall mean the British Thermal Unit of heat.



**ENCLOSURE 2**



### STATEMENT OF CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all Enclosures and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

---

(Signature)

---

(Title)

---

(Date)



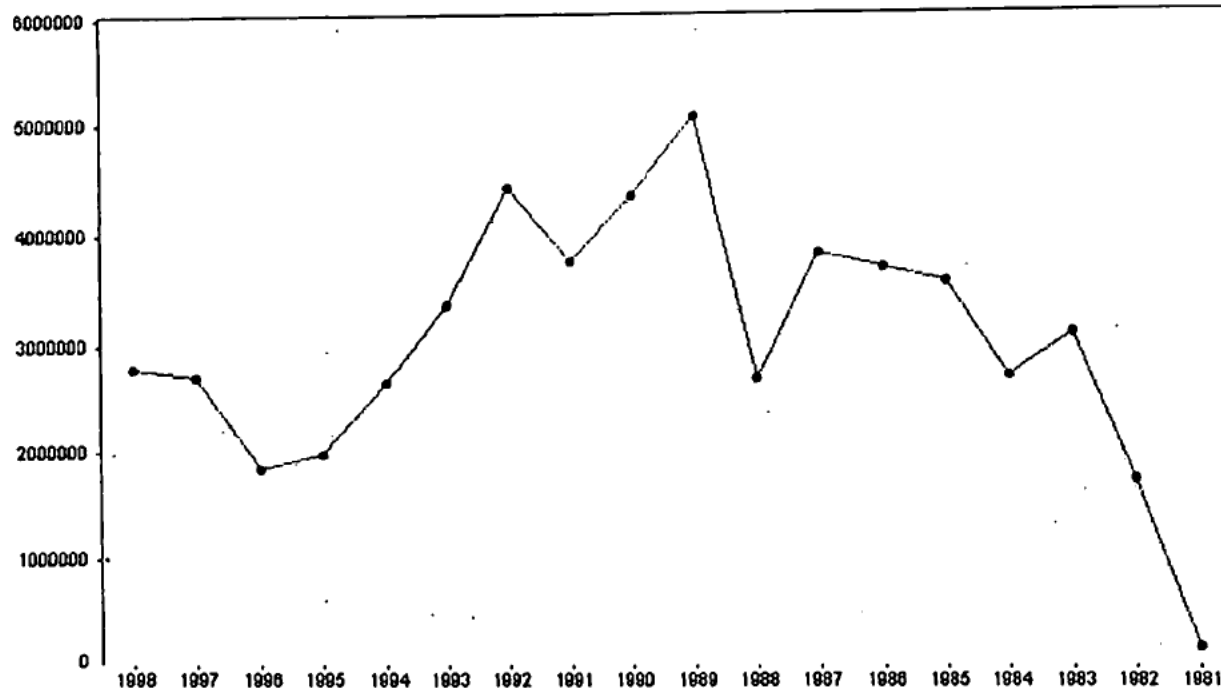
**ENCLOSURE 3**



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■ Maint Exp-Annual  
Boiler Costs (402  
30) (\$)

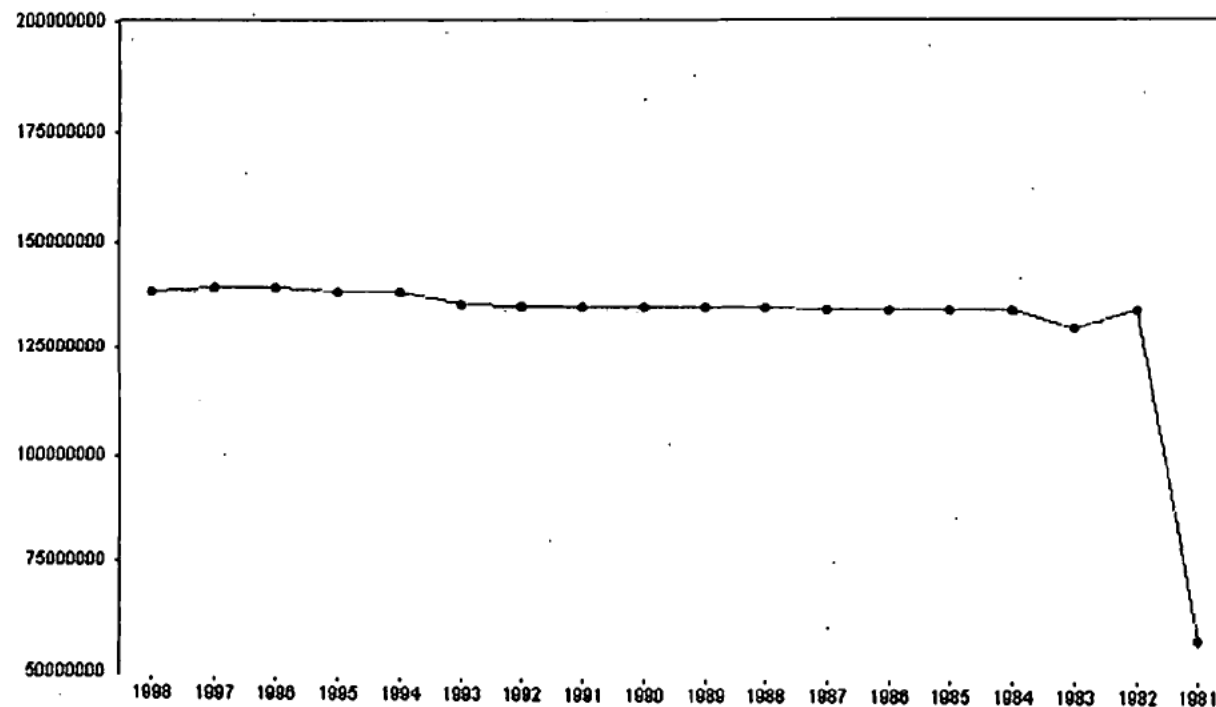
# PAWNEE (ST)



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■ Tot Capitalized  
Struct/Improv  
Cost (402 14) (\$)

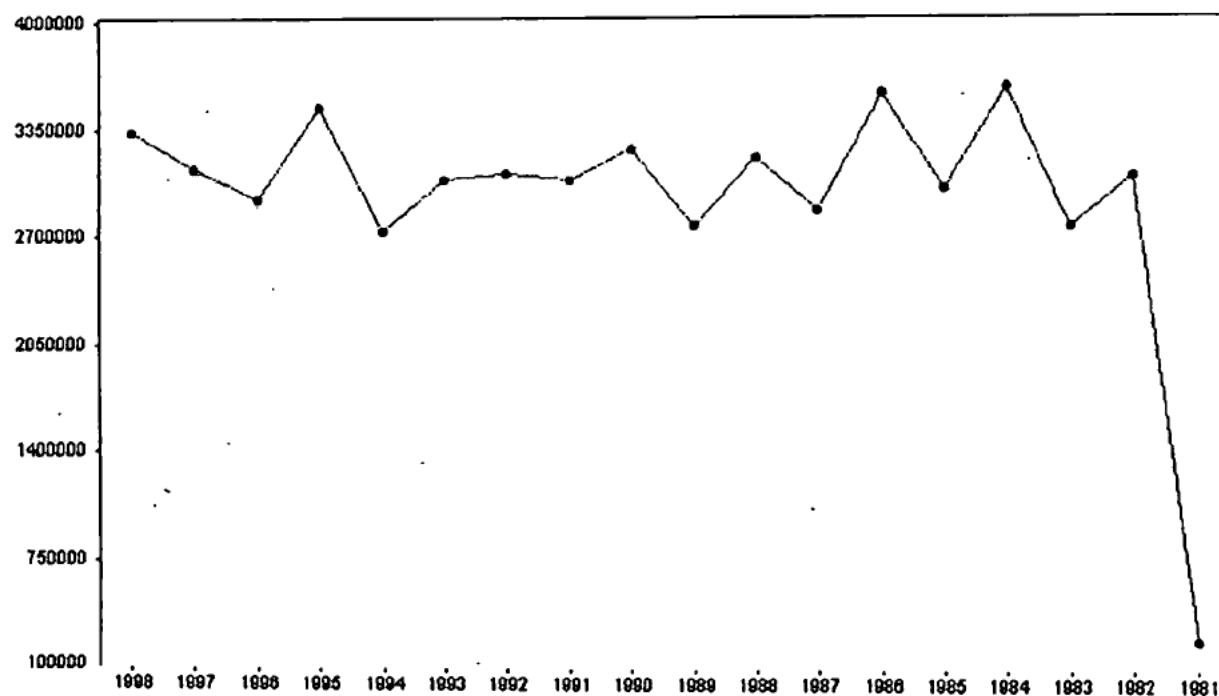
# PAWNEE (ST)



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Net Generation  
(MWh) (402 12)  
(MWh)

## PAWNEE (ST)

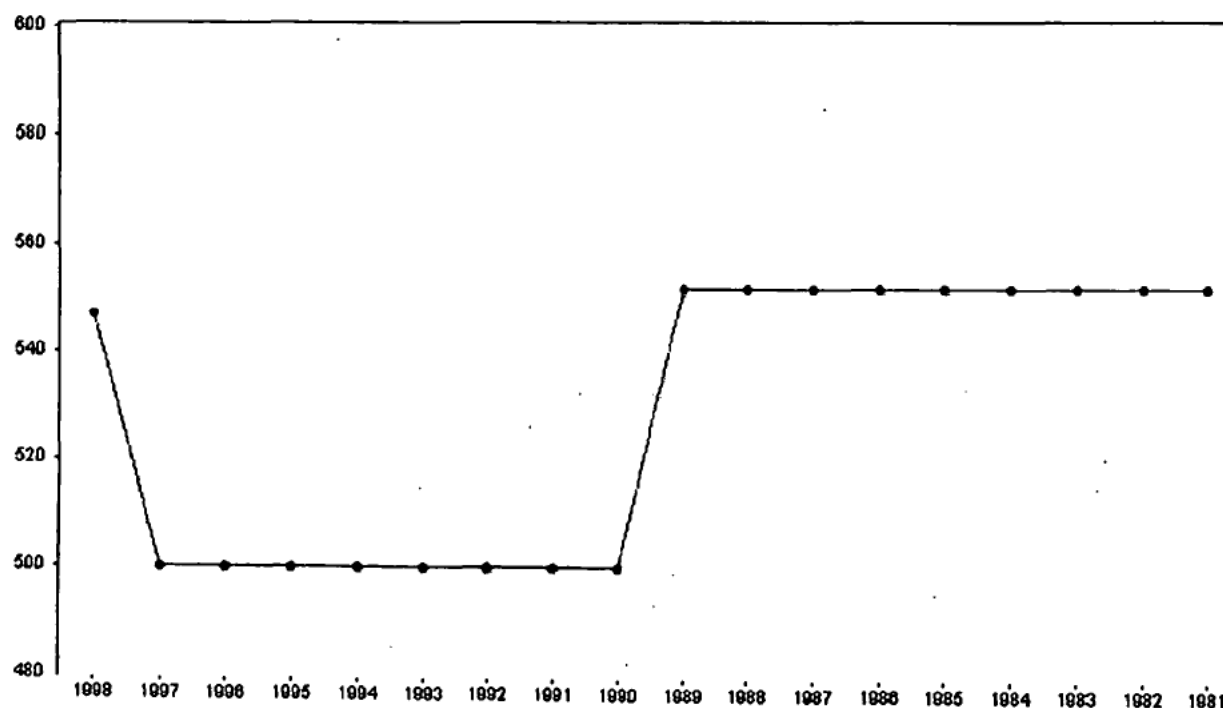




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■ Nameplate or  
Gross Capability  
(MW) (402 05)  
(MW)

# PAWNEE (ST)





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■ Annual Coal  
Burned (T) (402  
37) (tons)

### PAWNEE (ST)

